WHAT IS CLAIMED IS:

1. A multicompartment assay device comprising:

at least one compartment comprising a viable organism control medium capable of sustaining growth of total microbial organisms;

at least one compartment comprising a medium capable of selectively sustaining growth of target microbial organisms; and,

at least one compartment comprising an antimicrobial susceptibility interpretation medium.

2. The device of claim 1 wherein the medium capable of sustaining growth of total microbial organisms comprises a total viable bacteria medium; wherein the target microbial organisms are bacteria; and the antimicrobial susceptibility interpretation medium comprises an antibiotic.

3. The device of claim 1 wherein the medium capable of sustaining growth of total microbial organisms comprises a total viable fungi medium; wherein the target microbial organisms are fungi; and, wherein the antimicrobial susceptibility interpretation medium comprises an antifungal agent.

4. The device of claim 1 wherein the medium capable of sustaining growth of total microbial organisms comprises a means for detection of total microbial organisms.

5. The device of claim 4 wherein the means for detection comprises an enzyme substrate comprising a detectable moiety capable of being released from the substrate by action of a microbial enzyme.

6. The device of claim 1 wherein the medium capable of sustaining growth of target microbial organisms comprises a means for detection of target microbial organisms.

7. The device of claim 6 wherein the means for detection of target microbial organisms comprises a signal generating substrate comprising a detectable moiety capable of being released from the substrate by action of a microbial enzyme.

8. The device of claim 1 wherein the antimicrobial susceptibility interpretation medium comprises a means for detection of microbial organisms which have grown or reproduced in the susceptibility interpretation medium.

9. The device of claim 8 wherein the means for detection comprises a signal generating substrate comprising a detectable moiety capable of being released from the substrate by action of a microbial enzyme.

10. The device of claim 1 wherein the medium capable of sustaining growth of total microbial organisms, the medium capable of sustaining growth of target microbial organisms, and, the antimicrobial susceptibility interpretation medium each comprise a means for producing an identical type of detectable signal.

11. The device of claim 1 wherein the at least one antimicrobial susceptibility interpretation medium comprises amoxicillin, clavulanic acid/amoxicillin, or, enrofloxacin.

12. A method of detecting the presence of target microbial microorganisms in a biological sample and of simultaneously determining the susceptibility of such microorganisms to antimicrobial agents, said method comprising steps of:

providing a multicompartment assay device comprising: at least one compartment comprising a medium capable of sustaining growth of total microbial organisms; at least one compartment comprising a medium capable of sustaining growth of target microbial organisms; and, at least one compartment comprising an antimicrobial susceptibility interpretation medium;

placing a portion of the biological sample respectively in said at least one compartment comprising a medium capable of sustaining growth of total microbial organisms; said at least one compartment comprising a medium capable of sustaining growth of target microbial organisms; and, said at least one compartment comprising an antimicrobial susceptibility interpretation medium comprising an antimicrobial agent;

whereby growth of organisms in said at least one compartment comprising a medium capable of sustaining growth of total microbial organisms indicates the presence of bacteria in the sample; growth of organisms in said at least one compartment comprising a medium capable of sustaining growth of target microbial organisms indicates the presence of target microbial organisms in the sample, and growth of organisms in said at least one compartment comprising an antimicrobial susceptibility interpretation medium indicates that the organisms lack susceptibility to that antimicrobial agent.

13. The method of claim 12 which is a method of detecting target bacterial organisms or target fungal organisms.

14. The method of claim 12 wherein the biological fluid is urine, blood, saliva, cerebrospinal fluid, fluid from a wound, a chemical sample, or an environmental sample.

15. The method of claim 12 where the target microbial microorganisms are uropathogens.

16. The method of claim 15 where uropathogens comprise *Enterobacteriacae*.

17. The method of claim 15 where uropathogens comprise *Escherichia coli*, *Klebsiella spp.*, *Enterobacter spp.*, *Proteus mirabilis Proteus vulgaris*, *Morganella morganii*, *Providencia retteri*, *Acinetobacter spp.*, *Staphylococcus aureus*, *Enterococcus faecalis*, or *Streptococci*.

18. The method of claim 12 where the step of providing a device comprising the at least one antimicrobial susceptibility interpretation medium provides antimicrobial susceptibility interpretation medium comprising amoxicillin, clavulanic acid/amoxicillin, or, enrofloxacin.

19. A multicompartment assay device comprising:

a compartment comprising a medium capable of sustaining growth of total bacterial organisms;

a compartment comprising a medium capable of sustaining growth of target uropathogenic bacteria;

a compartment comprising an antimicrobial susceptibility interpretation medium comprising amoxicillin;

a compartment comprising an antimicrobial susceptibility interpretation medium comprising amoxicillin and clavulanic acid; and,

a compartment comprising an antimicrobial susceptibility interpretation medium comprising enrofloxacin.

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